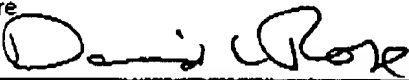


PTO/SB/53 (04-04)

Approved for use through 04/30/2007, OMB 0651-0033

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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<b>REISSUE APPLICATION: CONSENT OF ASSIGNEE; STATEMENT OF NON-ASSIGNMENT</b>		<b>Docket Number (Optional)</b> 18906IAR
This is part of the application for a reissue patent based on the original patent identified below.		
Name of Patentee(s) Wanda A. Cromlish, Brian P. Kennedy, Gary O'Neill, Philip J. Vickers, Elizabeth Wong and Joseph A. Mancini		
Patent Number 5,543,297	Date Patent Issued August 6, 1996	
Title of Invention Human Cytochrome P-450 2C9 CDNA and Assays for Evaluating Cyclo-oxygenase-2 Activity		
<p>1. <input checked="" type="checkbox"/> Filed herein is a statement under 37 CFR 3.73(b). (Form PTO/SB/96)</p> <p>2. <input type="checkbox"/> Ownership of the patent is in the inventor(s), and no assignment of the patent is in effect.</p> <p>One of boxes 1 or 2 above must be checked. If multiple assignees, complete this form for each assignee. If box 2 is checked, skip the next entry and go directly to "Name of Assignee".</p> <p>The written consent of all assignees and inventors owning an undivided interest in the original patent is included in this application for reissue.</p>		
The assignee(s) owning an undivided interest in said original patent is/are <u>Merck Frosst Canada Ltd.</u> and the assignee(s) consents to the accompanying application for reissue.		
Name of assignee/inventor (if not assigned)		
Signature 	Date 14 Feb 2006	
Typed or printed name and title of person signing for assignee (if assigned)  David L. Rose Counsel, Patents		

This collection of information is required by 37 CFR 1.172. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**General Corporate Resolution #5**

**PATENT MATTERS**

**RESOLVED**, that any of the following:

Richard T. Clark—Chief Executive Officer and President  
Kenneth C. Frazier—Senior Vice President and General Counsel  
Joseph F. DiPrima—Vice President and Assistant General Counsel  
Paul D. Matukaitis—Vice President and Assistant General Counsel  
William Krovatin—Counsel, IP Litigation  
Edward W. Murray—Counsel, IP Litigation  
Charles M. Caruso—Counsel, International  
Valerie J. Camara—Counsel, Patents  
Mark R. Daniel—Counsel, Patents  
Joanne M. Giesser—Counsel, Patents  
Anthony Rollins—Counsel, European Patents  
David L. Rose—Counsel, Patents  
Jack L. Tribble—Counsel, Patents  
Melvin Winokur—Counsel, Patents  
Donna L. Margiotta—Senior Manager, Patent Administration

are authorized to execute and to revoke on behalf of Merck & Co., Inc. and its affiliates (including subsidiaries) the following documents relating to patent matters:

Powers of attorney as fully in law as may be necessary and proper in connection with the acquisition, registration, maintenance and enforcement of patents and applications for patents, including powers of attorney relating to the prosecution or defense of patent rights before courts of law or other governmental tribunals, agencies or departments; affidavits and declarations; and any other documents which are necessary and proper for the acquisition, registration, maintenance, litigation and protection of patents.

08053

 Business  
Confidential  
use only

CERTIFICATION

I, Debra A. Bollwage, Senior Assistant Secretary of Merck & Co., Inc. (the "Company"), a corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that the attached, presently in full force and effect, is a true and correct copy of General Corporate Resolution #5, Patent Matters, as amended by the Board of Directors of said Company at a meeting duly called and held on May 24, 2005.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Company this 27<sup>th</sup> day of June 2005.

  
Senior Assistant Secretary

(SEAL)

**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: Wanda A. Cromlish, Brian P. Kennedy, Gary O'Neill, Philip J. Vickers, Elizabeth Wong and Joseph A. Mancini

Application No./Patent No.: 5,543,297

Filed/Issue Date: August 6, 1996

Entitled: Human Cylooxygenase-2 CDNA and Assays for Evaluating Cylooxygenase-2 Activity

Merck Frosst Canada Ltd.

(Name of Assignee)

, a Corporation

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.  
 (The extent (by percentage) of its ownership interest is \_\_\_\_\_ %)

in the patent application/patent identified above by virtue of either:

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: The above Applicant To: Merck Frosst Canada, Inc.

The document was recorded in the United States Patent and Trademark Office at Reel 7801, Frame 0956, or for which a copy thereof is attached.

2. From: Merck Frosst Canada, Inc. To: Merck Frosst & Co.

The document was recorded in the United States Patent and Trademark Office at Reel 9678, Frame 0146, or for which a copy thereof is attached.

3. From: Merck Frosst & Co. To: Merck Frosst Canada Ltd.

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

David L. Rose  
 Signature

14 Feb 2006  
 Date

David L. Rose  
 Printed or Typed Name

(732) 594-4777  
 Telephone Number

Counsel, Patents

Title

United States of America

## CONFIRMATORY ASSIGNMENT - PATENTS

WHEREAS,

**MERCK FROSST CANADA & CO.** (Assignor), hereinafter referred to as Assignor, whose full post office address is 16711 Trans-Canada Highway, Kirkland, Quebec, H9H 3L1, Canada, and whose registered office is Suite 900, 1959 Upper Water Street, Halifax, P.O. Box 997, Nova Scotia, B3J 2X2, Canada, did effective April 30, 2005, sell, assign, transfer, and set over to

**MERCK FROSST CANADA LTD.** (Assignee), whose principal office or place of business is at 16711 Trans-Canada Highway, Kirkland, Quebec, H9H 3L1, Canada, Assignor's ownership rights in respect of certain inventions, hereinafter referred to as the Inventions, as set forth and described in the patents and patent applications identified in Schedule "A" attached hereto, the patents and patent applications hereinafter referred to as the Patents;

AND WHEREAS, to confirm the sale, assignment, transfer and setting over, Assignor has agreed to execute and deliver this assignment;

NOW THEREFORE, in consideration of the sum of one dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby confirms that it has sold, assigned, transferred and set over to Assignee, with effect as of April 30, 2005, its entire right, title, interest, property and benefit in and to the Inventions and the Patents in respect of the United States of America, including any and all rights relating thereto in respect of the United States of America that may arise at law, all rights of action in respect of the United States of America resulting from prior infringement or other unauthorized use thereof, any and all applications corresponding thereto in respect of the United States of America, whether in the form of divisions, continuations, re-examinations, re-issues and extensions thereof, any and all Letters Patent and like industrial property registrations (hereinafter referred to as the Registrations) that may issue, be granted or result from the Patents and said corresponding applications for the Inventions in respect of the United States of America, and any and all rights of priority exercisable in the United States of America resulting from the filing of the Patents, the said corresponding applications and any previously filed applications in respect of the Inventions under international conventions, treaties or otherwise, the same to be held and enjoyed as fully and exclusively as the same would have been held and enjoyed by Assignor had this sale, assignment, transfer and setting over not been made;

AND ASSIGNOR, on behalf of itself and its successors, assigns, nominees, or other legal representatives, does hereby covenant and agree to do all such lawful acts and things and to execute and deliver without further consideration such further lawful assignments, instruments, assurances,

applications and other documents as may reasonably be required by said Assignee, or by its successors, assigns, nominees, or other legal representatives, to obtain said Letters Patent and Registrations and vest or secure the same in Assignee, and in Assignee's successors, assigns, nominees or other legal representatives.

AND ASSIGNOR does hereby authorize any official whose duty it is to grant patents or industrial property registrations, to grant said Letters Patent and Registrations to the Assignee, and to Assignee's successors, assigns, nominees or other legal representatives.

AND ASSIGNOR, on behalf of itself and its successors, assigns, nominees, or other legal representatives, does hereby authorize said Assignee, its successors, assigns, nominees or other legal representatives, including its Patent Agents, to amend the present assignment document to insert or correct the filing date, serial number or other identifying information of the Patents as may be needed to record same.

IN WITNESS WHEREOF, Assignor and Assignee have by their respective authorized signing officers executed this confirmatory assignment on the day and year set forth below.

DATED at Kirkland, this 17<sup>th</sup> day of February, 2006.

**MERCK FROSST CANADA & CO.**

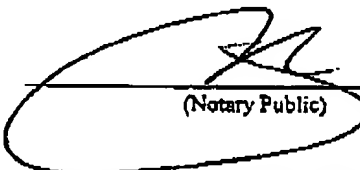
Per:   
Name: Kirk S. Duguid  
Title: Director & President

**MERCK FROSST CANADA LTD.**

Per:   
Name: Kirk S. Duguid  
Title: Director & Treasurer

**NOTARIZE AND LEGALIZE**

(OFFICIAL SEAL)

  
(Notary Public)  
M<sup>e</sup> DANIEL VEZINA, Notaire, Notary  
Place Grilli  
3535, boul. Saint-Charles  
bureau 500  
KIRKLAND (QUÉBEC)  
H9H 5B9

Schedule A

Attorney Docket No.	Filing date	Application No.	Grant Date	US Patent No.
Case 189061A	5/6/93	08/064,271	8/6/96	5,543,297
Case 189061AR	11/20/00	09/731,632		

### Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



PTO/SB/32 (10-05)  
Approved for use through 04/30/2007, OMB 0851-0033  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>REISSUE APPLICATION DECLARATION BY THE ASSIGNEE</b>		Docket Number (optional) 18906IAR
<p>I hereby declare that:</p> <p style="text-align: right;">Merck Frosst Canada Ltd.</p> <p>The residence, mailing address and citizenship of the inventors are stated below. <span style="float: right;">successor in interest from</span></p> <p>I am authorized to act on behalf of the following assignee: <span style="float: right;">Merck Frosst Canada &amp; Co.</span></p> <p>and the title of my position with said assignee is: _____</p> <p>The entire title to the patent identified below is vested in said assignee.</p>		
Inventor Wanda A. Cromlish	Citizenship CANADIAN	
Residence/Mailing Address 5377 St. Ignatius Ave., Montreal, Quebec, CANADA H4V 2C5		
Inventor Brian P. Kennedy	Citizenship CANADIAN	
Residence/Mailing Address 33 Brome, Kirkland, Quebec, CANADA H9J 2R5		
<input checked="" type="checkbox"/> Additional Inventors are named on separately numbered sheets attached hereto.		
Patent Number 5,543,297	Date of Patent Issued August 6, 1996	
<p>I believe said inventor(s) to be the original and first inventor(s) of the subject matter which is described and claimed in said patent, for which a reissue patent is sought on the invention entitled:</p> <div style="border: 1px solid black; padding: 5px; min-height: 40px;"> <p>HUMAN CYCLOOXYGENASE-2 CDNA AND ASSAYS FOR EVALUATING CYCLOOXYGENASE-2 ACTIVITY</p> </div> <p>the specification of which</p> <p><input type="checkbox"/> is attached hereto.</p> <p><input checked="" type="checkbox"/> was filed on <u>November 20, 2000</u> as reissue application number <u>09</u> / <u>731,632</u></p> <p>and was amended on <u>11/20/2000, 08/30/2004, 01/19/2005, 06/06/2005, 09/22/2005</u> (If applicable) <u>11/08/2005, 12/13/2005</u></p> <p>I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.</p> <p>I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.</p> <p><input type="checkbox"/> I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b). Attached is form PTO/SB/02B (or equivalent) listing the foreign applications.</p> <p>I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)</p> <p><input type="checkbox"/> by reason of a defective specification or drawing.</p> <p><input type="checkbox"/> by reason of the patentee claiming more or less than he had the right to claim in the patent.</p> <p><input checked="" type="checkbox"/> by reason of other errors.</p>		

(Page 1 of 2)

This collection of information is required by 37 CFR 1.175. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

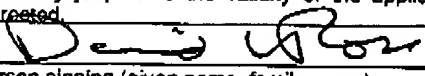
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/52 (10-05)

Approved for use through 04/30/2007. OMB 0551-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>REISSUE APPLICATION DECLARATION BY THE ASSIGNEE</b>		Docket Number (Optional) 189061AR	
At least one error upon which reissue is based is described as follows: Claims 20 and 21 of the patent recite a system while the claims from which they depend recites a transformed host.			
[Attach additional sheets, if needed.]			
All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant.			
I hereby appoint:			
<input checked="" type="checkbox"/> Practitioners associated with Customer Number:		000210	
OR			
<input type="checkbox"/> Practitioner(s) named below:			
Name		Registration Number	
Curtis C. Panzer		33,752	
David L. Rose		26,332	
as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.			
Correspondence Address: Direct all communications about the application to:			
<input checked="" type="checkbox"/> The address associated with Customer Number:		000210	
OR			
<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		
<b>WARNING:</b>			
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.			
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.			
Signature		Date	
		4 Feb 2006	
Full name of person signing (given name, family name)			
David L. Rose - Counsel, Patents			
Address of Assignee			
Merck & Co., Inc., P.O. Box 2000, 126 E. Lincoln Ave., Rahway, NJ 07065-0907			

(Page 2 of 2)

## Additional Patentees

PATENTEE	CITIZENSHIP
Gary O'Neill 51 Fredmir Street Dollard Des Ormeaux, Quebec Canada H9A 2R4	Canadian
Philip J. Vickers 3 Lydia's Path Westborough, Massachusetts 01581	Canadian and Great Britain
Elizabeth Wong 755 Montpelier Apt. 1602 St. Laurent, Quebec Canada H4L 4R1	Canadian
Joseph A. Mancini, Ph.D. 150 Timberlea Trail Kirkland, Quebec Canada H9J 2N5	Canadian

**General Corporate Resolution #5**

**PATENT MATTERS**

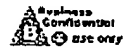
RESOLVED, that any of the following:

Richard T. Clark-Chief Executive Officer and President  
Kenneth C. Frazier-Senior Vice President and General Counsel  
Joseph F. DiPrima-Vice President and Assistant General Counsel  
Paul D. Matukaitis-Vice President and Assistant General Counsel  
William Krovatin-Counsel, IP Litigation  
Edward W. Murray-Counsel, IP Litigation  
Charles M. Caruso-Counsel, International  
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Anthony Rollins-Counsel, European Patents  
David L. Rose-Counsel, Patents  
Jack L. Tribble-Counsel, Patents  
Melvin Winokur-Counsel, Patents  
Donna L. Margiotto-Senior Manager, Patent Administration

are authorized to execute and to revoke on behalf of Merck & Co., Inc. and its affiliates (including subsidiaries) the following documents relating to patent matters:

Powers of attorney as fully in law as may be necessary and proper in connection with the acquisition, registration, maintenance and enforcement of patents and applications for patents, including powers of attorney relating to the prosecution or defense of patent rights before courts of law or other governmental tribunals, agencies or departments; affidavits and declarations; and any other documents which are necessary and proper for the acquisition, registration, maintenance, litigation and protection of patents.

08058



CERTIFICATION

I, Debra A. Bollwage, Senior Assistant Secretary of Merck & Co., Inc. (the "Company"), a corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that the attached, presently in full force and effect, is a true and correct copy of General Corporate Resolution #5, Patent Matters, as amended by the Board of Directors of said Company at a meeting duly called and held on May 24, 2005.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Company this 27<sup>th</sup> day of June 2005.

  
Senior Assistant Secretary

(SEAL)